

4. A NOTE ON A POPULATION OF *GAZELLA GAZELLA BENNETTI*

Although various species of gazelle have been studied in Africa and Russia (Heptner *et al.* 1966; Walther 1968), the chinkara or Indian gazelle has so far received little attention, the accounts by Stockley (1936) and Prater (1965) being typical of the available information. Between October 1970 and October 1974, I spent about 3 months observing Punjab urial (*Ovis orientalis punjabiensis*) in the Kalabagh Reserve at the western end of the Salt Range in Pakistan (see Schaller & Mirza 1974). While searching for urial along the base and the foothills of the range, chinkara were sometimes encountered. Intermittent hunting has made the animals so shy that they were difficult to observe. On seeing a person the gazelle either gave a series of snorts and then spronged away in their peculiar bounding gait, or they watched the approach silently and alertly while partially hidden behind grass or brush. During the heat of the day, which often exceeded 40°C, chinkara retreated into dense cover from about 0900 to after 1600 hours. Thus, in most instances I merely classified each animal into one of several categories: adult male (24+ mos), yearling male (12-24 mos), female (12+ mos), large young (6-12 mos), and small young (0-6 mos). Males were considered adult when their horns had the typical S shape and were some 25-35 cm long. (One adult male had horns of 28 cm, a total length of 124.5 cm, tail of 14.5 cm, ears of 14.5 cm, shoulder height of 67.6 cm, and weight of 23.4 kg). Yearling and adult females could not always be distinguished with precision and the two age classes were therefore lumped.

About 75 to 100 chinkara frequented some 7.5 sq km of flat to undulating terrain broken by stony ravines and covered sparsely with *Acacia modesta*, *Salvadora oleioides*, *Zizyphus*

*nummularia* and other shrubs and trees characteristic of an environment with an annual precipitation of about 40 cm, most of it from July to September. However, gazelle habitat extends in all directions, and animals could wander freely into and out of the study area. A total of 601 gazelle were classified, some repeatedly in the course of the study. The population tally included 22 per cent adult males, 3 per cent yearling males, 61 per cent females, 10 per cent large young, and 4 per cent small young. There were 40 males to 100 females. This low proportion of males is caused not only by selective sport hunting but probably also by the emigration of yearling males from the study area. Young animals were surprisingly scarce, 23 young to 100 females. However, the non-breeding yearling females are included in this computation. I saw no evidence that one-year-old females took part in the rut. It seems likely that young females conceive at about 18 months of age and have their first young some 5½ months later. Though predators are rare, a few newborns are no doubt killed by village dogs, foxes, jackals, and raptorial birds. Prater (1965) stated with regard to chinkara that "they have no particular breeding season." Heavily pregnant females and newborn young were most often seen in April at Kalabagh. I also found a newborn, still damp and crouched motionless among tufts of grass, on October 19, another on November 3, and also saw several tiny youngsters following their mothers during these two months. The evidence indicates that these chinkara have a discrete major birth peak in April and a minor one in the autumn. One young per adult female per year seems to be the rule; however, on two occasions a female had two young of the same age at heel.